AD-A104 202 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
19304D MLRS MISSILE NUMBER V-02-009, ROUND NUMBER V-181/MD-39, --ETC(U)
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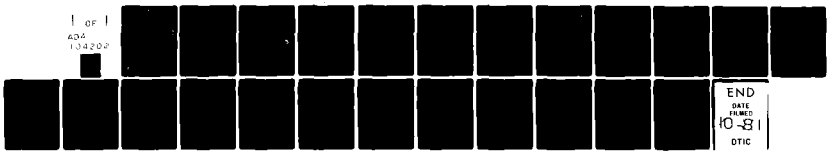

LEVEL II

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DR 1202
Aug 1981
AD

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AD A104202

METEOROLOGICAL DATA REPORT

19304D MLRS
Missile Number V-02-009
Round Number V181/MD-39
6 Aug 1981

by

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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REPORT DOCUMENTATION PAGE

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18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of the 19304D MLRS, Missile No. V-02-009, Round No. V-181/MD-39 presented in tabular form.

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CONTENTS

INTRODUCTION

19304D MLRS, Missile Number V-02-009, Round Number V-181/MD-39, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1311:27 MDT, 06 Aug 1981. The scheduled launch time was 1300 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations.

a. Surface:

(1) Standard surface observations to include pressure, temperature ($^{\circ}$C), relative humidity, dew point ($^{\circ}$C), density (gm/m^3), wind speed and direction and cloud cover were made at LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air:

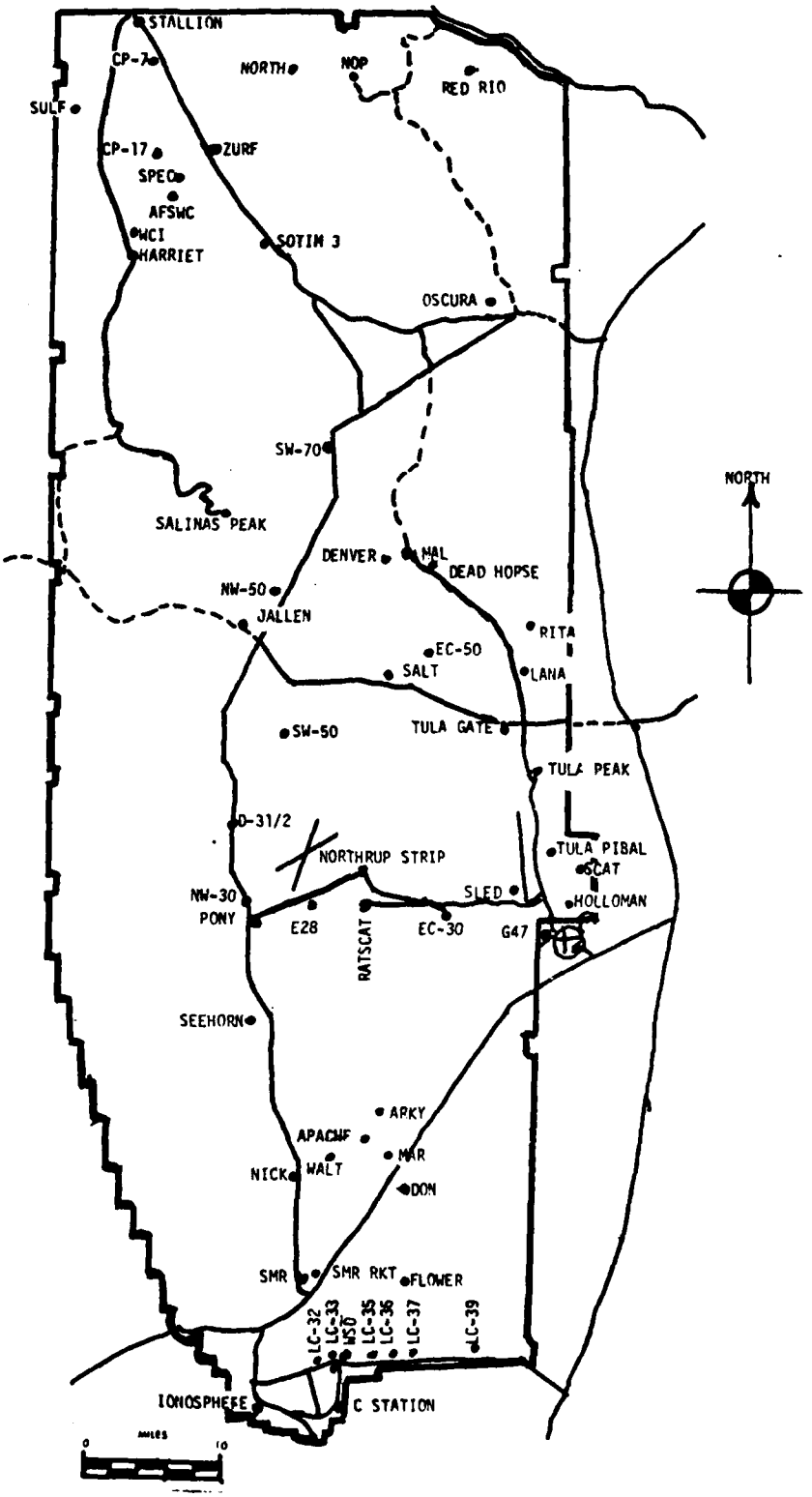
(1) Low level wind data were obtained from Pilot-Balloon observations at:

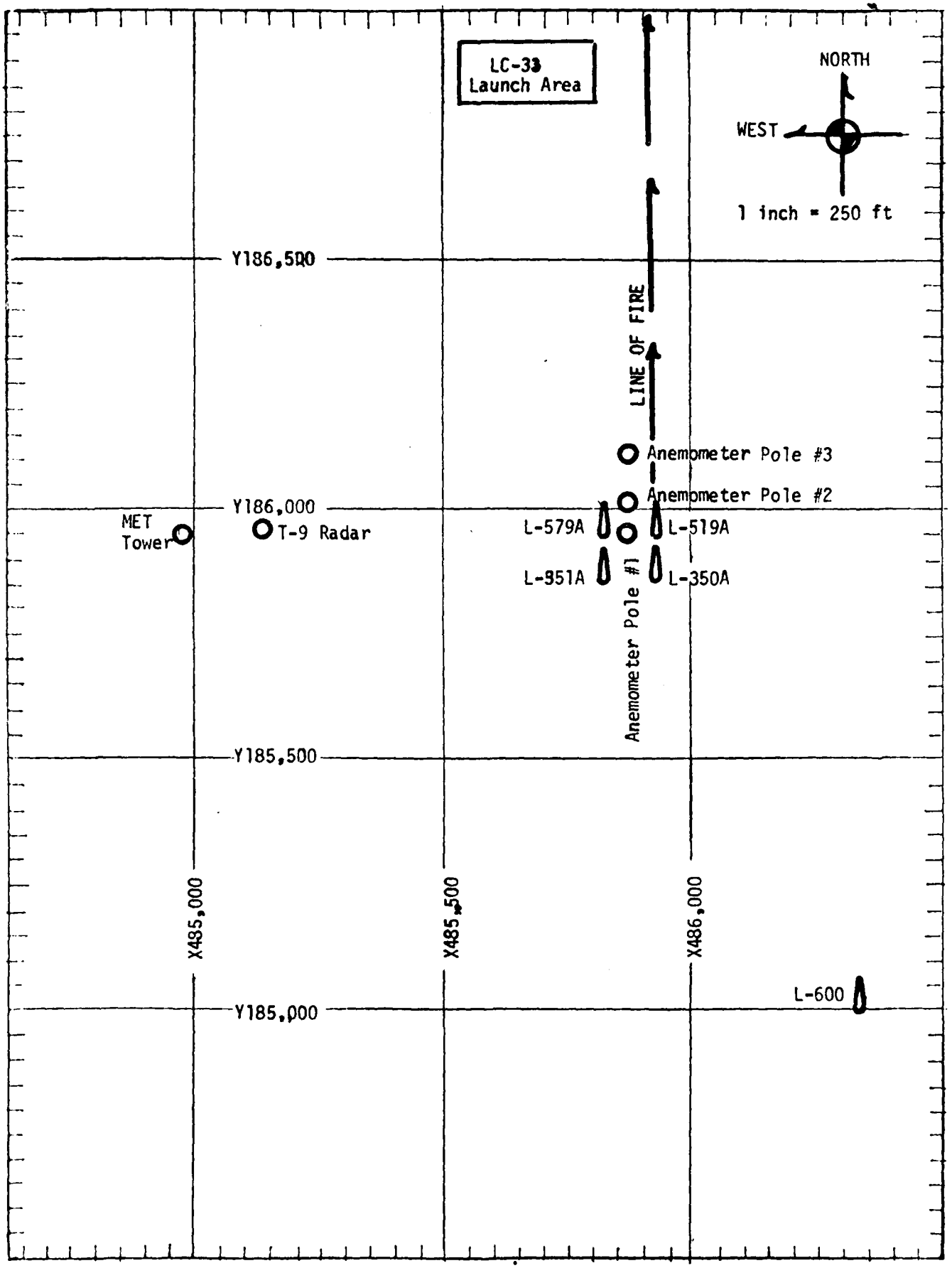
SITE AND ALTITUDE	
LC-33	2 KM
NICK	2 KM

(2) Air structure data (rawinsonde) were collected at the following Met Sites:

SITE AND TIME	
WSD	1014 MDT
LC-37	1100 MDT
WSD	1230 MDT

WSMR METEOROLOGICAL SITES




LC-39
Launch Area
NORTH
WEST
1 inch = 250 ft
Y186,500
LINE OF FIRE
Anemometer Pole #3
Anemometer Pole #2
Y186,000
MET
Tower
T-9 Radar
L-579A
L-519A
L-951A
L-350A
Anemometer Pole #1
Y185,500
X485,000
X485,500
X486,000
L-600
Y185,000

PPOJECT SURFACE OBSERVATION

TABLE 1

STATION LC-33

DATE 06 (DAY) Aug (MONTH) 1981 (YEAR)

X= 485,135.76 Y= 185,919.24 H= 3,988.57

TIME MDT	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
1312	881.1		32.8		17.0	39	1003	350	04		40

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
	2	CB	6000	4	AC	12000	1	CI	25000	

PSYCHROMETRIC COMPUTATION

TIME: MDT	1312		
DRY BULB TEMP.	32.8		
WET BULB TEMP.	21.6		
WET BULB DEPR.	11.2		
DEW POINT	17.0		
RELATIVE HUMID.	39%		

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T -30	028	07	T -30	022	07	T -30	358	09
T -20	024	07	T -20	010	05	T -20	359	08
T -10	026	07	T -10	011	06	T -10	349	07
T 0.0	027	05	T 0.0	009	05	T 0.0	354	08
T +10	033	08	T +10	020	07	T +10	350	09

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484.982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	038	07	T-30	008	06
T-20	028	06	T-20	035	08
T-10	016	09	T-10	006	05
T0.0	032	07	T0.0	033	07
T+10	031	05	T+10	033	06

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	006	08	T-30	012	10
T-20	007	09	T-20	008	09
T-10	015	07	T-10	020	09
T0.0	014	07	T0.0	003	10
T+10	020	07	T+10	012	09

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 06 Aug 1981

SITE: LC-33
TIME: 1312 MDT
WSTM COORDINATES:
X= 484,837.34
Y= 184,124.44
H= 3,975.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	010	05
150	003	14
210	001	14
270	360	14
330	360	14
390	360	14
500	359	13
650	358	11
800	350	06
950	233	04
1150	241	06
1350	248	06
1550	255	06
1750	283	08
2000	285	10

Data obtained from Double Theodolite Tracked Pilot-Balloon Observation.

SITE: NICK
TIME: 1312 MDT
WSTM COORDINATES:
X= 470,734.56
Y= 255,775.64
H= 4,126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	355	04
150	336	12
210	334	14
270	333	14
330	331	15
390	329	14
500	324	13
650	309	12
800	301	13
950	300	10
1150	306	03
1350	306	03
1550	275	03
1750	247	02
2000	102	01

Data obtained from Single Theodolite Tracked Pilot-Balloon Observation.

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES
06 Aug 1981

WSD 1014 MDT		LC-37 1100 MDT		WSD 1230 MDT	
METCM1324064		METCM1324063		METCM1324064	
061620122882		061700124880		061850122882	
00000000	30550882	00622004	30650880	00044007	30950882
01245002	30470872	01059004	30410870	01028009	30610872
02596001	30270848	02502002	30260846	02044008	30340848
03582006	29930810	03622004	29820808	03600002	30020810
04558006	29510765	04560006	29360763	04492006	29610765
05548007	29080722	05482004	29050720	05513005	29210722
06513005	28670681	06524007	28680678	06585008	28820681
07456004	29320641	07436005	28250639	07012003	28430642
08135004	27980603	08069001	27850601	08113004	28010604
09097010	27590567	09118005	27570566	09066004	27610568

STATION ALTITUDE 3989.00 FEET MSL
6 AUG. 81 1014 HRS MDT
ASCENSION NO. 521

SIGNIFICANT LEVEL DATA
2180020521
WHITE SANDS
TABLE 6

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
881.9	3989.0	30.4	15.7	41.0
850.0	5068.2	27.9	13.8	42.0
759.6	8303.9	20.2	8.8	48.0
700.0	10600.4	14.3	7.6	64.0
659.6	12242.8	10.4	5.4	71.0
651.0	12602.4	9.8	5.1	63.0
618.8	13984.5	7.5	1.4	65.0
536.0	17819.9	-1.2	-5.2	74.0
500.0	19635.8	-4.1	-11.1	58.0
473.8	21026.3	-6.6	-22.4	27.0
460.9	21733.4	-8.4	-22.1	32.0
451.2	22276.2	-8.5	-26.8	21.0
436.2	23137.0	-9.6	-30.0	17.0
422.0	23975.1	-11.4	-28.3	23.0
411.6	24603.2	-13.0	-18.0	66.0
400.0	25319.0	-14.3	-22.2	51.0

STATION ALTITUDE 3989.00 FEET MSL
6 AUG. 81 1014 HRS MDT
ASCENSION NO. 521

UPPER AIR DATA
2180020521
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.9	30.4	15.7	41.0	1004.4	681.4	.0	.0	1.000297
4000.0	881.6	30.4	15.6	41.0	1004.1	681.3	328.1	.0	1.000297
4500.0	866.6	29.2	14.8	41.5	991.2	679.9	328.1	1.4	1.000291
5000.0	852.0	28.1	13.9	41.9	978.4	678.5	328.1	2.7	1.000285
5500.0	837.3	26.9	13.2	42.8	965.6	677.1	328.1	4.0	1.000279
6000.0	822.9	25.7	12.4	43.7	953.0	675.7	326.3	5.0	1.000274
6500.0	808.7	24.5	11.7	44.7	940.5	674.3	322.2	5.3	1.000268
7000.0	794.8	23.3	10.9	45.6	928.2	672.9	319.6	5.6	1.000263
7500.0	781.1	22.1	10.1	46.5	916.1	671.4	318.1	5.7	1.000258
8000.0	767.7	20.9	9.3	47.4	904.1	670.0	317.5	6.1	1.000253
8500.0	754.3	19.7	8.8	49.4	892.2	668.6	317.5	6.6	1.000249
9000.0	741.0	18.4	8.6	52.8	880.3	667.1	314.1	6.9	1.000246
9500.0	728.0	17.1	8.4	56.3	868.6	665.7	309.5	7.1	1.000243
10000.0	715.1	15.8	8.1	59.8	857.1	664.2	305.2	7.0	1.000240
10500.0	702.5	14.6	7.7	63.3	845.8	662.7	300.8	6.8	1.000237
11000.0	689.9	13.4	7.1	65.7	834.3	661.2	294.3	6.1	1.000232
11500.0	677.6	12.2	6.4	67.8	822.9	659.8	285.8	5.5	1.000228
12000.0	665.4	11.0	5.7	70.0	811.6	658.4	273.3	4.8	1.000224
12500.0	653.4	10.0	3.8	65.3	800.3	657.0	263.4	4.4	1.000216
13000.0	641.6	9.1	2.6	63.6	788.3	656.0	258.1	3.8	1.000211
13500.0	629.9	8.3	2.0	64.3	776.3	655.0	253.3	2.4	1.000207
14000.0	618.4	7.5	1.3	65.0	764.6	654.0	227.8	.6	1.000203
14500.0	607.0	6.3	.5	66.2	753.6	652.6	78.4	2.3	1.000199
15000.0	595.7	5.2	-.3	67.4	742.7	651.2	73.5	5.7	1.000195
15500.0	584.7	4.1	-1.2	68.6	732.1	649.8	65.0	7.8	1.000191
16000.0	573.8	2.9	-2.0	69.7	721.5	648.4	57.8	9.7	1.000187
16500.0	563.2	1.8	-2.9	70.9	711.2	647.0	53.7	9.6	1.000183
17000.0	552.7	.7	-3.8	72.1	701.0	645.7	49.5	9.3	1.000180
17500.0	542.5	-.5	-4.7	73.2	690.9	644.3	45.5	8.3	1.000176
18000.0	532.3	-1.5	-5.8	72.4	680.7	643.0	39.7	7.3	1.000172
18500.0	522.2	-2.3	-7.4	68.0	669.9	642.0	26.9	7.6	1.000167
19000.0	512.3	-3.1	-9.0	63.6	659.3	641.0	20.6	7.7	1.000163
19500.0	502.6	-3.9	-10.7	59.2	648.9	639.9	31.0	6.7	1.000159
20000.0	493.0	-4.8	-13.6	49.9	638.8	638.8	48.2	5.6	1.000154
20500.0	483.6	-5.7	-17.4	38.7	629.0	637.6	75.4	5.1	1.000148
21000.0	474.3	-6.6	-22.2	27.6	619.2	636.4	79.4	5.0	1.000143
21500.0	465.1	-7.8	-22.2	30.3	610.1	634.9	76.1	4.8	1.000141
22000.0	456.1	-8.4	-24.2	26.6	599.8	634.1	59.6	4.9	1.000138
22500.0	447.3	-8.8	-27.6	20.0	589.1	633.6	46.2	5.5	1.000135
23000.0	438.6	-9.4	-29.5	17.6	579.0	632.8	38.4	6.6	1.000132

STATION ALTITUDE 3989.00 FEET MSL
6 AUG. 81 1014 HRS MDT
ASCENSION NO. 521

UPPER AIR DATA
2180020521
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	430.8	-10.4	-29.2	19.6	569.8	631.7	37.5	7.7	1.000130
24000.0	421.6	-11.5	-27.6	24.7	560.9	630.4	42.5	9.0	1.000128
24500.0	413.3	-12.7	-19.1	58.9	552.2	629.1			1.000131
25000.0	405.1	-13.7	-20.2	57.7	543.4	627.8			1.000128

STATION ALTITUDE 3989.00 FEET MSL
6 AUG. 81 1014 HRS MDT
ASCENSION NO. 521

MANDATORY LEVELS
2180020521
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT		DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE		PERCENT	DEGREES(TN)	KNOTS
850.0	5064.	27.9	13.8	42.	328.1	2.9
800.0	6818.	23.7	11.2	45.	320.2	5.5
750.0	8657.	19.3	8.8	50.	317.4	6.8
700.0	10590.	14.3	7.6	64.	299.7	6.7
650.0	12631.	9.7	3.1	63.	262.1	4.2
600.0	14801.	5.6	-.0	67.	74.4	4.4
550.0	17118.	.4	-4.0	72.	48.5	9.0
500.0	19608.	-4.1	-11.1	58.	34.0	6.5
450.0	22309.	-8.6	-27.1	21.	49.6	5.2
400.0	25276.	-14.3	-22.2	51.		

STATION ALTITUDE 4051.37 FEET MSL
6 AUG. 81 1700 HRS MDT
ASCENSION NO. 176

SIGNIFICANT LEVEL DATA
21801.0176
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
879.8	4051.4	30.8	15.2	39.0
874.6	4225.2	28.2	15.7	41.0
864.8	4554.7	29.2	15.3	43.0
859.0	5059.5	28.0	14.0	44.0
835.8	5549.2	25.6	13.5	47.0
779.8	7539.0	20.6	10.7	53.0
734.2	9238.6	16.0	7.2	56.0
725.4	9576.5	16.9	8.6	58.0
700.0	10573.2	14.7	6.5	58.0
637.2	13159.1	7.8	3.3	73.0
603.4	14629.1	3.9	-1.1	70.0
594.8	15013.7	4.4	-.6	70.0
545.2	17328.7	-.5	-2.7	85.0
520.8	18527.2	-3.9	-6.7	81.0
500.0	19584.1	-5.2	-11.7	60.0
480.8	20591.4	-7.8	-19.3	39.0
473.0	21011.0	-6.5	-20.1	33.0
442.8	22697.7	-9.6	-22.2	35.0
413.6	24419.4	-13.5	-17.9	69.0
400.0	25256.4	-13.9	-21.0	55.0
378.2	26646.2	-18.2	-31.5	30.0
364.2	27572.7	-18.7	-34.6	23.0
338.0	29387.4	-23.5	-39.6	21.0
300.0	32215.3	-31.1	-43.5	28.0

STATION ALTITUDE 4051.37 FEET MSL
6 AUG. 81 [illegible] HRS MDT
ASCENSION NO. 176

UPPER AIR DATA
2180[illegible]176
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	975.8	30.8	15.2	39.0	1000.8	681.7	350.0	4.1	1.000294
4500.0	866.4	29.0	15.1	42.7	991.4	679.8	353.3	4.0	1.000292
5000.0	851.7	28.1	14.7	43.9	977.5	678.7	357.1	4.0	1.000288
5500.0	837.2	25.8	13.6	46.7	963.6	676.0	.9	3.9	1.000282
6000.0	822.8	24.5	12.9	48.4	950.5	674.4	4.8	3.9	1.000277
6500.0	808.6	23.2	12.2	49.9	944.1	672.9	355.4	4.0	1.000272
7000.0	794.6	22.0	11.5	51.4	931.9	671.4	340.5	4.5	1.000267
7500.0	780.9	20.7	10.7	52.9	919.9	669.9	325.0	5.1	1.000262
8000.0	767.2	19.4	9.8	53.8	908.2	668.3	312.5	5.2	1.000256
8500.0	753.7	18.0	8.8	54.7	896.7	666.8	299.2	5.1	1.000250
9000.0	740.4	16.6	7.7	55.6	885.3	665.0	290.3	4.8	1.000245
9500.0	727.4	16.7	8.3	57.5	869.3	665.1	281.9	4.5	1.000243
10000.0	714.5	16.0	7.7	58.0	856.1	664.3	278.5	4.9	1.000239
10500.0	701.8	14.9	6.7	58.0	844.4	662.9	276.7	5.4	1.000233
11000.0	689.2	13.6	6.1	60.5	833.1	661.4	281.4	6.5	1.000229
11500.0	676.8	12.2	5.5	63.4	822.0	659.8	283.3	7.3	1.000225
12000.0	664.6	10.9	4.9	66.3	811.1	658.2	280.2	6.8	1.000221
12500.0	652.7	9.6	4.2	69.2	800.4	656.6	275.5	6.0	1.000217
13000.0	640.9	8.2	3.5	72.1	789.6	655.0	262.5	4.3	1.000214
13500.0	629.2	6.9	2.3	72.3	779.3	653.4	251.3	3.1	1.000208
14000.0	617.6	5.6	.8	71.3	768.9	651.7	251.1	2.2	1.000203
14500.0	606.3	4.2	-.7	70.3	758.7	650.0	266.4	.1	1.000198
15000.0	595.1	4.4	-.6	70.0	748.2	650.2	73.2	2.1	1.000195
15500.0	584.0	3.4	-1.0	73.2	738.0	649.0	78.0	4.3	1.000192
16000.0	573.1	2.3	-1.4	76.4	728.2	647.8	71.0	5.0	1.000188
16500.0	562.5	1.3	-1.9	79.6	718.5	646.5	61.2	5.2	1.000185
17000.0	552.0	.2	-2.4	82.9	708.8	645.2	48.4	5.2	1.000182
17500.0	541.6	-1.0	-3.3	84.4	699.0	643.8	39.3	5.4	1.000179
18000.0	531.4	-2.4	-4.9	82.8	689.7	642.0	41.6	5.3	1.000174
18500.0	521.3	-3.8	-6.6	81.1	680.5	640.2	43.6	5.2	1.000169
19000.0	511.4	-4.5	-8.8	71.6	671.5	639.3	43.6	4.9	1.000164
19500.0	501.6	-5.1	-11.3	61.7	662.7	638.5	42.5	4.5	1.000159
20000.0	492.0	-6.3	-14.6	51.3	654.2	636.9	39.5	4.0	1.000153
20500.0	482.5	-7.6	-18.5	40.9	645.8	635.2	39.8	3.8	1.000148
21000.0	473.2	-6.5	-20.0	33.2	637.7	636.4	42.6	4.0	1.000144
21500.0	464.0	-7.4	-20.7	33.0	629.7	635.4	37.9	5.0	1.000142
22000.0	455.1	-8.3	-21.3	34.2	621.8	634.3	34.0	6.2	1.000139
22500.0	446.2	-9.2	-21.9	34.3	614.1	633.2	32.9	6.7	1.000137
23000.0	437.5	-10.3	-21.0	41.0	606.5	631.9	33.6	7.1	1.000135
23500.0	428.9	-11.4	-19.5	50.8	599.0	630.6	37.0	7.4	1.000134

STATION ALTITUDE 4651.27 FEET MSL
6 AUG. 61 1107 HRS MDT
ASCENSION NO. 176

UPPER AIR DATA
21801 OF 17b
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 10 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	420.5	-12.5	-18.5	60.7	561.4	629.3	35.9	8.7	1.000133
24500.0	412.3	-13.5	-18.2	67.7	552.5	628.1	35.2	10.0	1.000131
25000.0	404.1	-13.8	-20.0	59.3	542.1	627.8	40.2	10.3	1.000128
25500.0	396.1	-14.7	-22.6	50.6	533.3	626.7	46.6	10.5	1.000124
26000.0	388.2	-16.2	-26.2	41.6	525.9	624.7	60.1	10.5	1.000121
26500.0	380.4	-17.7	-30.2	32.6	518.7	622.7	72.9	11.0	1.000118
27000.0	372.8	-18.4	-32.6	27.3	509.6	621.9	85.5	11.6	1.000116
27500.0	365.3	-18.7	-34.3	23.5	499.9	621.6	96.2	12.6	1.000113
28000.0	357.9	-19.8	-35.8	22.5	492.8	620.1	102.5	12.5	1.000111
28500.0	350.6	-21.2	-37.1	22.0	484.5	618.5	107.5	12.4	1.000109
29000.0	343.4	-22.5	-38.5	21.4	477.2	616.9	100.6	11.5	1.000108
29500.0	336.4	-23.8	-39.7	21.3	469.9	615.2	103.7	10.9	1.000106
30000.0	329.4	-25.1	-40.3	22.5	462.6	613.6	95.1	11.5	1.000104
30500.0	322.5	-26.5	-41.0	23.8	455.4	611.9			1.000102
31000.0	315.8	-27.8	-41.7	25.0	448.3	610.2			1.000101
31500.0	309.2	-29.2	-42.4	26.2	441.4	608.6			1.000099
32000.0	302.7	-30.5	-43.2	27.5	434.6	606.9			1.000098

STATION ALTITUDE 4651.37 FEET MSL
6 AUG. 81 1100 HRS MDT
ASCENSION NO. 176

MANDATORY LEVELS
2,801,0176
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 11

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT		DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE		PERCENT	DEGREES(TN)	KNOTS
850.0	5056.	28.0	14.6	44.	357.5	4.0
800.0	6864.	22.4	11.7	51.	346.3	4.3
750.0	8653.	17.6	8.5	55.	295.8	5.0
700.0	10563.	14.7	6.5	58.	277.4	5.6
650.0	12603.	9.3	4.9	70.	273.3	5.6
600.0	14763.	4.1	-.9	70.	65.5	1.1
550.0	17075.	-.0	-2.5	83.	46.2	5.3
500.0	19556.	-5.2	-11.7	60.	42.1	4.4
450.0	22252.	-8.8	-21.6	35.	33.3	8.5
400.0	25213.	-13.9	-21.0	55.	42.6	10.5
350.0	28491.	-21.3	-37.3	22.	107.4	12.3
300.0	32150.	-31.1	-43.5	28.		

STATION ALTITUDE 3989.0 FEET MSL
6 AUG. 81 1230 HRS MDT
ASCENSION NO. 522

SIGNIFICANT LEVEL DATA
21800 0822
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT
881.5	3989.0	34.0	15.4	33.0
871.4	4329.8	30.6	11.1	30.0
850.0	5054.6	28.8	12.2	36.0
700.0	10508.8	16.0	2.8	41.0
661.0	12201.1	12.6	1.3	46.0
609.4	14423.2	6.9	-.1	61.0
575.6	15957.5	3.2	-.6	76.0
551.0	17119.5	1.0	-3.1	74.0
509.8	19158.6	-4.1	-6.9	61.0
505.0	19404.2	-4.6	-9.4	69.0
500.0	19662.6	-3.5	-14.8	41.0
494.0	19976.3	-3.9	-20.1	27.0
455.4	22070.5	-8.5	-25.5	29.0
447.8	22499.5	-9.1	-28.2	40.0
443.4	22751.2	-8.8	-17.5	50.0
433.0	23355.6	-9.6	-18.5	48.0
411.0	24674.2	-12.5	-21.7	46.0
400.0	25354.5	-13.9	-21.8	51.0

STATION ALTITUDE 3989.00 FEET MSL
6 AUG. 61 1230 HRS MDT
ASCENSION NO. 522

UPPER AIR DATA
21800205222
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.5	34.0	15.4	33.0	992.2	685.4	25.0	7.0	1.000292
4000.0	881.2	33.9	15.3	32.9	992.3	685.2	25.0	7.0	1.000291
4500.0	866.4	30.2	11.4	31.4	989.1	680.5	22.7	6.2	1.000276
5000.0	851.7	28.9	12.2	35.5	976.0	679.3	19.7	5.4	1.000277
5500.0	837.0	27.8	11.5	36.4	962.9	677.9	15.7	4.6	1.000272
6000.0	822.5	26.6	10.7	36.8	950.1	676.5	10.2	3.9	1.000266
6500.0	808.2	25.5	9.8	37.3	937.5	675.1	335.8	3.1	1.000261
7000.0	794.2	24.3	9.0	37.7	925.0	673.8	297.0	3.8	1.000255
7500.0	780.4	23.2	8.2	38.2	912.7	672.4	294.8	4.4	1.000250
8000.0	766.9	22.0	7.3	38.6	900.5	671.0	277.5	5.0	1.000245
8500.0	753.6	20.9	6.4	39.1	888.6	669.6	276.9	5.0	1.000240
9000.0	740.5	19.7	5.6	39.6	876.8	668.2	278.0	4.8	1.000236
9500.0	727.7	18.6	4.7	40.0	865.2	666.9	287.2	4.6	1.000231
10000.0	715.1	17.4	3.8	40.5	853.7	665.5	299.2	4.7	1.000226
10500.0	702.7	16.3	3.0	40.9	842.4	664.1	312.7	5.7	1.000222
11000.0	690.2	15.2	2.4	42.2	830.6	662.8	321.8	7.1	1.000218
11500.0	677.9	14.1	2.0	43.8	818.9	661.6	324.2	6.9	1.000215
12000.0	666.8	13.0	1.5	45.4	807.5	660.3	326.7	6.5	1.000211
12500.0	655.8	11.8	1.2	48.0	796.1	658.9	338.4	4.8	1.000209
13000.0	642.0	10.6	1.0	51.4	785.2	657.5	5.9	3.3	1.000206
13500.0	633.3	9.3	.6	54.8	774.5	656.0	34.7	3.3	1.000203
14000.0	618.9	8.0	.3	58.1	764.0	654.5	53.6	4.0	1.000200
14500.0	607.7	6.7	-.1	61.8	753.5	653.0	57.1	3.9	1.000197
15000.0	596.5	5.5	-.2	66.6	742.8	651.6	57.2	3.5	1.000195
15500.0	585.5	4.3	-.4	71.5	732.3	650.2	52.0	3.3	1.000192
16000.0	574.7	3.1	-.7	75.9	721.9	648.8	44.7	3.2	1.000190
16500.0	564.0	2.2	-1.8	75.1	711.0	647.6	33.5	3.8	1.000185
17000.0	553.5	1.2	-2.8	74.2	700.4	646.4	24.8	5.0	1.000181
17500.0	543.1	.0	-3.8	75.3	690.3	645.0	19.2	6.0	1.000177
18000.0	532.8	-1.2	-4.7	77.0	680.4	643.4	14.9	6.8	1.000174
18500.0	522.8	-2.5	-5.6	78.7	670.8	641.9	13.9	7.1	1.000170
19000.0	512.9	-3.7	-6.6	80.5	661.3	640.4	18.0	6.4	1.000167
19500.0	503.1	-4.2	-11.1	58.0	650.4	639.5	25.0	5.8	1.000159
20000.0	493.5	-4.0	-20.1	27.0	638.1	639.5	37.9	5.4	1.000149
20500.0	484.1	-5.1	-20.9	27.5	628.4	638.2	47.7	5.5	1.000146
21000.0	474.7	-6.1	-21.6	28.0	618.9	636.9	50.2	6.1	1.000144
21500.0	465.6	-7.2	-22.4	28.5	609.5	635.5	48.7	6.8	1.000141
22000.0	456.6	-8.3	-23.2	28.9	600.3	634.2	41.6	7.5	1.000139
22500.0	447.8	-9.1	-21.2	40.0	590.2	633.4	35.9	8.4	1.000138
23000.0	439.1	-9.1	-17.3	49.2	578.6	633.4	31.3	9.3	1.000137

STATION ALTITUDE 3989.00 FEET MSL
6 AUG. 71 1230 HRS MDT
ASCENSION NO. 022

UPPER AIR DATA
21800220522
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	430.5	-9.9	-18.9	47.8	569.1	632.5			1.000134
24000.0	422.1	-11.0	-20.1	47.0	560.3	631.1			1.000132
24500.0	413.8	-12.1	-21.3	46.3	551.7	629.7			1.000129
25000.0	405.7	-13.2	-21.7	48.4	543.1	628.5			1.000127

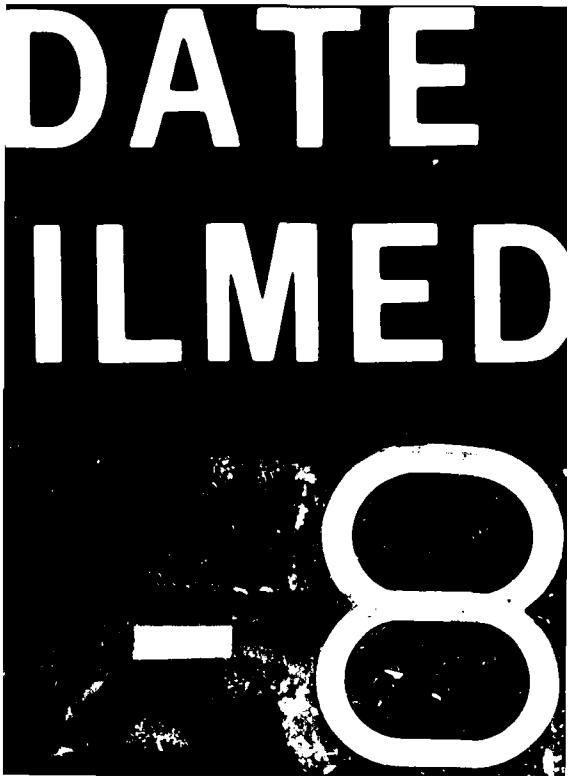
STATION ALTITUDE 3989.00 FEET MSL
6 AUG. 61 1256 HRS MDT
ASCENSION NO. 522

MANDATORY LEVELS
21800 20522
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 14

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5055.	28.8	12.2	36.	19.3	5.3
800.0	6813.	24.6	9.4	38.	309.3	3.3
750.0	8657.	20.5	6.2	39.	277.3	4.9
700.0	10598.	16.0	2.6	41.	314.9	6.0
650.0	12650.	11.4	1.1	49.	344.9	4.2
600.0	14825.	5.9	-.2	65.	57.2	3.6
550.0	17145.	.9	-3.2	74.	22.8	5.3
500.0	19634.	-3.5	-14.4	41.	28.7	5.7
450.0	22340.	-8.9	-21.0	37.	37.4	8.2
400.0	25311.	-13.9	-21.8	51.		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